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EXAMINER	
KRISCIUNAS, LINDA MARY	

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/965,125	BRAUMOELLER ET AL.	
	Examiner	Art Unit	
	Linda Krisciunas	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-101* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-101* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

has the product being ordered, where the algorithm used to run this query can be considered means to determine a default center, the closest center.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 68-69 and 71 are rejected under 35 U.S.C. 102(e) as being anticipated by Dunston et al (US 2002/0082954).

As per claim 68, Dunston teaches receiving an indication of an order to be supplied to a recipient (See Figure 4 item (401) where there is a request for a product or order); upon receiving the indication of the order, determining a fulfillment plan for supplying the order to the recipient so to optimize over a period of time extending into the future a specified factor that is affected by supplying one or more expected future order to recipients (See Figure 4 where the system determines the closest service center with the product which constitutes determining a fulfillment plan, where the optimization extending into the future feature is addressed by the determination step of finding the closest center as this will enable faster turn around time from the time the order is placed to the time the customer receives the item. As noted in paragraph 18, the items stored at the center are optimized such that the amount and types of products

DETAILED ACTION

1. The following is a Non-Final Office Action in response to the applicant's amendments filed June 16, 2006. Claims 1-101 are pending. Claim 1 has been amended.

Response to Amendment

2. The Examiner notes the amendment to claim 1 and it is addressed below in the art rejection.

Response to Arguments

3. The art rejection arguments are moot in light of the new grounds of rejection.

The use of Greamo et al (US 2002/0095307) and Jenkins et al (US 2002/0188499) are proper prior art due to their respective provisional filings as previously mentioned in the Interview Summary filed June 6, 2006. The argument that Greamo does not teach cost associated with a "shortage of inventory" has been addressed by the addition of the Weber et al (US 2002/0156663) reference, as noted below.

The inventorship of Jenkins has common inventorship with to its respective provisional filing 60/243427. There was an internal typing error in PAIR with respect to the provisional application number, which has been addressed, and Jenkins now refers to its correctly filed provisional application 60/243427. The applicant is requested to review the provisional application further and point out any specific claimed limitation that is not disclosed in the provisional application, if any.

4. With regard to the Examiner taking official notice, Examiner notes the following discussion of Official Notice taken from the MPEP:

> To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also *Chevenard, 139 F.2d at 713, 60 USPQ at 241* ("[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention."). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also *Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697* ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2). If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate. (MPEP § 2144.03(C))

Applicant has not "specifically point[ed] out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art." Applicant's broad request for references to support Examiner's statements of Official Notice amounts to nothing more than an unsupported challenge. For these reasons, goodwill costs, potential orders and default center for filling orders are taken to be admitted prior art because Applicant's traversal was inadequate. Furthermore, Examiner submits evidence below to support that Official Notice was properly taken.

The Examiner asserts that the concept of utilizing goodwill reduction costs in the field of financial cost accounting and determining future costs as is the case in this application, are old and well known to one of ordinary skill in the art as indicated on pages 8 and 14 of Amazon.com, Inc Form 10-K/A for Fiscal Year 1999, where a value is associated with the impact various business decisions make on customer goodwill as some decisions may cause a decrease in reputation of the company in the eyes of some customers which can in turn cause a decrease in products purchased by that consumer.

The Examiner asserts that the concept of potential orders by potential customers is old and well known to one of ordinary skill in the art in the field of purchasing and supply chain management as indicated in Macready et al (US 2002/0016759) which also teaches about supply chain optimization. Paragraph 281 teaches about the concept of RFQ or request for quote which constitutes potential orders from potential customers. RFQs are a type of order and can be modeled as such during optimization scenarios. The Examiner has taken official notice on the specific limitation of "potential order" and the remaining art rejection has addressed the additional claim limitations.

The Examiner asserts that the concept of a default center from which to fulfill an order is old and well known to one or ordinary skill in the art and indicated in Weber et al (US 2002/0156663). Paragraph 117 cites the use of default or pre-defined values for determining the supply chain, including the location, process and resource(s). The default location constitutes a default center from which the product will ship. In addition, Jenkins et al (US 2002/0082954) teaches determining the closest service center that

coincide with the market needs in that region, thereby keeping costs and inventory to a minimum.); and indicating to supply the indicated order to the recipient by using the fulfillment plan (The fulfillment plan is indicated in step (408) where the order is sent to the selected service center.).

As per claim 69, Dunston teaches the specified factor is a total cost of supplying multiple orders to multiple recipients that occur over the period of time (paragraph 64: allows for tracking of business activity (tracking cost is a business activity) and performance of service at multiple locations).

As per claim 71, Dunston teaches the order is a potential order and the indicating to supply the order to the recipient by using the plan is based on instruction received from a user in response to providing an indication of the plan (Figure 4: (403), (404), (405), (406) and (407)) (Official notice is taken that both the concept and advantage of a "request for quote" (RFQ) or potential order is well known and expected in the art. It would have been obvious to include RFQs in an ordering processing system for the purpose of gaining a potential order that may realize into an actual order.)

7. Claims 59, 61 and 63 are rejected under 35 U.S.C. 102(e) as being anticipated by Jenkins et al (US 2002/0188499).

As per claim 59, Jenkins teaches determining multiple fulfillment options (100: fulfillment system), each option indicating distribution center to be used (paragraph 290); to include associated cost for each option for one or more future orders (paragraph 16: procurement optimization allows fulfillment system to decrease supply cost), the cost calculation to include cost associated with correcting a disparity between

actual and desired level of work (production module (400)); and selecting a fulfillment option based upon the future total cost (paragraph 16).

As per claim 61, Jenkins teaches the cost calculation to include cost associated with correcting a disparity between actual and desired level of work (production module (400)); and calculating a cost associated with correcting a disparity between actual and desired inventory level (paragraph 23, 24 and 25).

As per claim 63, Jenkins teaches receiving an indication of an order ((210) planning component, places orders), for each distribution center determining a cost that is associated with that center to fulfill the order (paragraph 49: commit system (100) evaluates cost for each option), the determined cost including an estimated future cost of fulfilling at least one future order (paragraph 50: the system looks later than the requested date); and selecting one of the centers to fill the order based on the center having the lowest associated cost (paragraph 49: selects the least cost).

8. Claims 81-85, 87, 94, 96 and 100-101 are rejected under 35 U.S.C. 102(e) as being anticipated by Greamo et al (US 2002/0095307).

As per claim 81, Greamo teaches for each indication of a potential order associated with a customer: evaluating fulfillment options for filling the order by calculating a cost of using each option ((240) select lowest cost option) based upon an expected actual cost of shipping the order (shipping costs would be factored into the lowest cost option) and on a predicted impact that using the option will have on expected future costs of filling future orders; selecting one of the options based upon the calculated costs ((240) select lowest cost option); and upon an indication from a

customer to place the potential order, indicating to fill the order using the selected option.

As per claim 82, Greamo teaches for some of the potential orders, after selecting the fulfillment option for the order ((240) select lowest cost option), providing an indication of the selected option to the customer associated with the order ((270) promise order and (290) allow user to view order status) and receiving a response of the selected option to place the order (paragraph 48: The commit system 100 preferably processes orders to a customer in real time during step 230. The customer placing their order is expecting immediate feedback, such as if the order can get met, when the order can get met, and if they should place their order.)

As per claim 83, Greamo teaches for some of the potential orders, providing indications of multiple options for the order to the customer in such a manner that the customer could select any option to place the order (paragraph 48: The commit system 100 preferably processes orders to a customer in real time during step 230. The customer placing their order is expecting immediate feedback, such as if the order can get met, when the order can get met, and if they should place their order).

As per claim 84, Greamo teaches receiving an indication from the associated customer to place an order using one of the fulfillment options other than the selected option and indicating to fill the order using the one indicated option (paragraph 48: The commit system 100 preferably processes orders to a customer in real time during step 230. The customer placing their order is expecting immediate feedback, such as if the order can get met, when the order can get met, and if they should place their order).

As per claim 85, Greamo does not explicitly teach the cost of fulfillment options is determined based on changes in customer goodwill. Official notice is taken that it is known that there is a cost associated with goodwill that factors into a company's cost structure, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include a goodwill cost component for the purpose of determining an overall cost.

As per claim 87, Greamo teaches the predicted impact that using some of the options will have on future costs of filling orders if they include costs of correcting deviations between an actual and desired amount of inventory at one or more centers (paragraph 22, 24 and 25).

As per claim 94, Greamo teaches a computer readable medium containing a data structure for use in filling orders that is based on costs associated with filling future orders (select lowest cost option (240)), each entry comprising: an indication of a distribution center to be used to fill the order (modify supply chain (270) and group order (280)); an indication of at least one associated cost of use that reflects costs associated with filling one or more future orders based on using the plan to fill the order (select lowest cost option (240)).

As per claim 96, Greamo teaches the associated costs of use for each plan includes at least one cost that reflects a disparity between an actual inventory level and a desired level at one or more centers indicated for the fulfillment plan (Greamo teaches the predicted impact that using some of the options will have on future costs of filling

orders if they include costs of correcting deviations between an actual and desired amount of inventory at one or more centers (paragraph 22, 24 and 25).

As per claim 100, Greamo teaches a computer readable medium is a data transmission medium transmitting a generated data signal containing the data structure (paragraph 27: a commit server 110, a network or Web-based business-to-business (B2B) user interface 120, public APIs 130, a batch import 140, a statistics applet 150, a database 160, and a switchover server 170.).

As per claim 101, Greamo teaches the computer readable medium is one or more computer memories that collectively contain the data structure (paragraph 27: a commit server 110, a network or Web-based business-to-business (B2B) user interface 120, public APIs 130, a batch import 140, a statistics applet 150, a database 160, and a switchover server 170.).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-6 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greamo et al (US 2002/0095307) in view of Weber et al (US 2002/0156663).

As per claim 1, Greamo teaches receiving an order from a customer indicating items for delivery to a recipient (receive order (220)): determining multiple distinct fulfillment plans for supplying the items ("more than one option", Figure 2a), each plan

indicating for each item that the item is to be shipped from an indicated one of multiple distribution centers and indicating a manner of shipping (paragraph 21: "When an order is generated, commit system 100 checks the availability of all related inventory and resources in real time. Factors considered include alternate distribution centers, planned production, capable production, alternate sourcing and plants, and alternate raw material suppliers." and claim 2: checking availability of item, considering inventory and distribution needed); for each distribution center determining if shipping will result in an overload of work at that center and will result in a shortage of inventory of the item at that center (paragraph 41: checks availability of inventory to offer a low cost solution); assigning modeled future cost based on future costs for correcting any work overloads and inventory shortages (paragraph 60: "For example, because commit system 100 will reserve inventory for the ship complete order, there will be inventory carrying costs associated with the delay of lower priority orders that could have been met in the meantime. Therefore, there is a tradeoff between the benefits derived from increases in customer service and the costs assumed from carrying excess inventory that need to be considered when using the ship complete feature." The system is adding the costs incurred to ship future orders based upon not filling them in time due to using a feature which requires the whole order be ready prior to shipping. The reason for not filling the order in time may be due to inventory or manpower issues.); selecting one of the fulfillment plans based on the modeled future costs of the plan (select lowest cost option (240)) to supply the items and indicating to supply the items of the order to the recipient using the selected fulfillment plan (Promise order and modify supply chain (270)).

Greamo does not explicitly teach modeling future costs of future orders. Weber teaches that it is known that for each fulfillment plan, to model at least some future cost of supplying future orders to the recipients if that plan is used, the modeling of future costs being performed before the expected future orders are received (The Examiner notes that according to paragraph 29 in the Specification, the modeling of future costs includes "modeling numbers and types of expected future orders (by distribution center, or individual processing lane per DC...) modeling expected future inventory of particular items (by DC, such as based on current inventory and expected orders and considering future replenishment plans), and modeling expected future order processing capabilities....". Weber teaches modeling future costs for future orders in paragraphs 28-29 where the system allows the user to make critical decisions about the future by predicting long term effects of changes in the supply chain, including variations such as a change in manufacturing facilities or a change in order quantities with regard to the future and determining the lowest cost or most profitable customer service policy etc. In addition, the modeling of future costs inherently would occur before the order is received as it is a future cost, not a current cost.). Weber is an analogous art as it also teaches about supply chain optimization. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the supply chain system of Greamo with the future costs feature of Weber to provide means for proactively optimizing the system for future orders.

As per claim 2, Greamo teaches the ordering service is web based (claim 49) including displaying information about the fulfillment plan via web page (Allow user to view order status (290)).

As per claim 3, Greamo teaches determining some of the costs attributable to using the fulfillment plan to supply the items of the order (paragraph 32); totaling the future costs, the directly attributable costs and the goodwill reduction costs (paragraph 49), wherein selecting the plan is based upon overall cost of the plan (select lowest cost option (240). Greamo does not explicitly teach good will costs. Official notice is taken that it is known that there is a cost associated with goodwill that factors into a company's cost structure, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include a goodwill cost component for the purpose of determining an overall cost.

As per claim 4, Greamo teaches modeled future costs are performed for multiple orders over a period of time so that an optimal manner of fulfilling the orders over the period of time can be achieved based upon fulfillment plans that are dynamically determined at the time the order is received (paragraph 49).

As per claim 5, Greamo teaches a distribution center being a default item distribution center for filling the order based in part on location of the order recipient relative to the location of the distribution center, wherein the fulfillment plan indicates a center other than the default center based upon the cost being greater to move the order from the default center to the other center (claim 2. "checking the availability of

said desired item by said desired time considers inventory, production, manufacturing, distribution, and transportation resources needed to deliver said desired item by said desired time." Greamo indicates that the distribution channel availability will be verified and if the one that is indicated (ie default center) is not available to meet the time requirements, another will be substituted.)

As per claim 6, Greamo teaches determining a delivery date on which the items will be supplied to the recipient if that plan is used (paragraph 43).

As per claim 98, Greamo does not explicitly teach indications center to recipient, or indicated processing lanes. Weber teaches that it is known that each entry of data further comprises an indication of a manner of transporting the order from the indicated center to a recipient of the order, an indication of one or more processing lanes to be used at each of the indicated centers, an indication of a manner of acquiring at least some items of the order, and/or an indication of a manner of processing at least some of the items at the centers (See paragraph 16: "the user may specify information on the locations in the supply chain, such as plants, distribution centers (DCs), suppliers, and customers. Likewise, the user may specify lanes defining the transportation network connecting locations. The user may further identify items in the supply chain, such as raw materials, works-in-process (WIPs) or unfinished goods, and finished goods, as well as defining stock keeping units (SKUs) used to identify the items at the different locations. The user may further define various purchase, source, and make processes that occur at the location and lanes in the supply chain. The user may also specify resources used in the processes of supply chain, such as labor, machinery, production,

inventory, in-handling, out-handling, transportation, and extra transportation. In defining these resources, the user may further designate multi-tiered pricing or specify a maximum number of sources for each location. The user may also define hard and soft constraints for the processes and resources. Tax and information related to international locations may also be specified." See also Figure 2c where lanes are indicated for processing the products.). Weber is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the data entry feature of Weber for the purpose of more efficiently managing the product fulfillment process.

11. Claims 16-22, 24-33, 35-44, 46-54, 56-58 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins et al (US 2002/0188499) in view of Weber et al (US 2002/0156663).

As per claims 16 and 54, Jenkins teaches that it is known to receive an indication or one or more items ((210) planning component, places orders); determine multiple fulfillment options (100: fulfillment system), each option indicating distribution center to be used (paragraph 290); also include associated cost for each option for one or more future orders (paragraph 16: procurement optimization allows fulfillment system to decrease supply cost), and then selecting a fulfillment option based upon the total cost (paragraph 16). Jenkins does not explicitly teach a work level disparity or cost associated with desired inventory level. Weber teaches that it is known the cost calculation includes cost associated with correcting a disparity between actual and

desired level of work (paragraph 29 where the system helps to decide how much to manufacture in the near future with regard for lowest cost or most profitable customer service policy. See also paragraph 32 where the user can specify resources used in the supply chain such as labor, production, inventory etc. See also paragraph 43 where as part of determining the costs for the make process, the user identifies resources used in the process, such as labor and in paragraph 44 these resources are considered with respect to costs and capacities. Therefore the labor costs and capacity issues are addressed.), cost associated with correcting a disparity between actual and desired inventory level and cost associated with correcting inventory exhaustion (paragraph 29 where the system helps to decide how much to manufacture in the near future and how much stock, or inventory, to have at the plant to provide lowest cost or most profitable customer service policy. See also paragraph 32 where the user can specify resources used in the supply chain such as labor, production, inventory etc. See also paragraph 44 where the system defines the costs to move intermediate goods and finished goods, or inventory, through the supply chain network and these resources are considered with regard to their cost and capacity. Therefore the cost to have the correct inventory in the correct location would be attained.).Weber is an analogous art as it also teaches about supply chain optimization. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the supply chain system of Jenkins with the work level disparity and inventory costs feature of Weber to provide means for being more comprehensive with regard to cost calculations as it is more inclusive with factoring in costs associated with optimization of the supply chain.

As per claim 17, Jenkins teaches indicating to order via the fulfillment option. Jenkins teaches that it is known to indicate the fulfillment option to be used for the order ((300) deployment component, to create recommended shipments).

As per claim 18, Jenkins teaches indicating the fulfillment option. Jenkins teaches that it is known to indicate the fulfillment option to be used for the order ((300) deployment component, to create recommended shipments).

As per claim 19, Jenkins teaches having the customer give an indication of the preferred fulfillment option (paragraph 7: meeting customer requirements).

As per claim 20, Jenkins teaches that the fulfillment option includes cost (paragraph 16).

As per claim 21, Jenkins teaches indicating the manner in which the order will be fulfilled if that option is used ((300) deployment component).

As per claim 22, Jenkins teaches a web page that contains order information that is customer viewable (claim 27: internet and paragraph 57: a web client (40) may connect to the fulfillment system).

As per claim 24, Jenkins teaches that it is known to determine whether the cost exceeds a threshold and deciding whether to perform the determination of fulfillment options based on the cost of the items (paragraph 241: user can set values in the database. This is equivalent to a threshold value as it performs an identical function in substantially the same manner with substantially the same results.).

As per claim 25, Jenkins teaches the indication of the items includes a recipient wherein the determination of the fulfillment plan is based in part on the recipient (paragraph 260).

As per claim 26, Jenkins teaches an indication of a customer that may order the items and wherein the determination of fulfillment is based in part on the customer (paragraph 260 where the customer is the recipient).

As per claim 27, Jenkins teaches indicating the manner of supplying the items and determining the fulfillment options and associated costs with respect to the manner of supply ((300) deployment component).

As per claim 28, Jenkins teaches prioritizing the order of fulfillment and the associated costs with doing so (paragraph 270).

As per claim 29, Jenkins does not explicitly teach passing costs to the customer. Official notice is taken that both the concept and advantage of passing on the incurred cost of conducting business to the customer for the purpose of realizing a profit is well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included passing on the cost associated with a customer's order to the customer to provide a means for reducing expenses and realizing a profit.

As per claim 30, Jenkins teaches the associated cost of the fulfillment option reflects a cost incurred by the supplier (paragraph 22, 24 and 25).

As per claim 31, Jenkins teaches the method is performed on behalf of an ordering service (paragraph 28: external execution system to release production orders)

and some of the fulfillment options indicate distribution centers for third party suppliers (paragraph 58: produces production orders and vendor orders).

As per claim 32, Jenkins teaches the fulfillment options indicating a manner of shipping from the center to the recipient (paragraph 8: shipping and receiving capacity and customer delivery windows are all simultaneously considered).

As per claim 33, Jenkins teaches the fulfillment options indicating one or more processing lanes to be used at each center (paragraph 329).

As per claim 35, Jenkins teaches processing some of the items at the distribution center (paragraph 81: distribution network).

As per claim 36, Jenkins teaches the indication being an order (paragraph 83: orders).

As per claim 37, Jenkins does not explicitly teach the indication being a potential order by a potential customer Official notice is taken that both the concept and advantage of a "request for quote" (RFQ) or potential order is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to include RFQs in an ordering processing system for the purpose of gaining a potential order that may realize into an actual order.

As per claim 38, Jenkins teaches that it is known to select a fulfillment option which includes ranking the options using a specific criteria and selecting the one with the highest rank (paragraph 349).

As per claim 39, Jenkins teaches the work level disparity carrying a positive cost (production module (400)), wherein cost could include carrying excess inventory to prepare for the holiday (paragraph 332)).

As per claim 40, Jenkins teaches the desired work level at the center is an optimal level of work for the center (see load leveler (410)).

As per claim 41, Jenkins teaches cost for correction of inventory is a positive cost to reflect shortage of inventory (paragraph 6: expedited shipments are used to compensate for shortage of inventory and they cost the company money).

As per claim 42, Jenkins teaches desired inventory level is an optimal level for that distribution center (paragraph 8: optimize inventory).

As per claim 43, Jenkins teaches for each fulfillment option determining an overall cost that includes associated costs of use and some costs attributable to supplying the items ((300) deployment component).

As per claim 44, Jenkins does not explicitly teach the cost of goodwill. Official notice is taken that it is known that there is a cost associated with goodwill that factors into a company's cost structure, therefore it would be obvious to include a goodwill cost component for the purpose of determining an overall cost.

As per claim 46, Jenkins teaches adjusting a mechanism for calculating the costs reflecting future corrections in order to control how quickly the corrections will occur (paragraph 59: safety stock. The stock is used as a means for controlling costs).

As per claim 47, Jenkins does not explicitly teach the costs reflecting future corrections are projected costs. Official notice is taken it is well known that the definition of future corrections already implies a projection as it is impossible to know the future.

As per claim 48, Jenkins teaches before receiving of the indication of items, predicting demand for multiple items (paragraph 29: planning period) and wherein the desired levels of work and the desired levels of inventory are based in part on predicted demand (paragraph 5: increase in demand causes an alter to operations. The business must select the least cost strategy. An alteration to operations and a low cost strategy will impact the level of work and inventory, therefore there is a direct correlation between demand and work level and inventory.).

As per claim 49, Jenkins teaches that demand is based upon a future time (paragraph 29: forecast. Forecast implies a future time.).

As per claim 50, Jenkins teaches predicting demand for multiple regions associated with distribution centers (paragraph 306: forecast list includes source location).

As per claim 51, Jenkins teaches before receiving indication of items, determining the desired work level and inventory level values for the distribution center at a future time, and wherein the performing of the group corresponds to the future time such that the values of the desired work and inventory levels that are used to determine the disparities are the previously determined values (paragraph 8).

As per claim 52, Jenkins teaches automatically deciding to determine values for the desired work levels and inventory levels based upon current conditions (paragraph 7).

As per claim 53, Jenkins teaches identifying a center as a default center, wherein a cost that reflects a correction of inventory exhaustion is included in the associated cost of use for an option only if the option indicates a center other than the default center (paragraph 47: each supply method has optional routes, and paragraph 49: the commit system (100) evaluates the cost for each course of action. The default center would be the one selected prior to determining optional routes and the commit system calculates the additional cost of using a route other than the original one.)

As per claim 56, Jenkins teaches the computer readable medium is a memory of a computing device (See Figure 1B: database servers (600)).

As per claim 57, Jenkins teaches the computer readable medium is a data transmission medium transmitting a generated data signal containing the contents (See Figure 1B where the databases are sending and receiving information from the external systems, integration server and web servers).

As per claim 58, Jenkins teaches the contents of the medium are instructions that when executed cause the computing device to perform the method (See Figure 1B, where the java applets and html javascript are equivalent to instructions as they perform an identical function in substantially the same manner with substantially the same results.).

As per claim 66, Jenkins teaches the estimated future cost associated with the center filling the order includes at least one of a cost of a future correction of an imbalance between an actual amount and a desired amount of work (paragraph 5: increase in demand causes an alter to operations. The business must select the least cost strategy. An alteration to operations and a low cost strategy will impact the level of work and inventory, therefore there is a direct correlation between demand and work level and inventory) at that center and a cost of a future correction of an imbalance between an actual amount and a desired amount of inventory at the center (paragraph 8: optimize inventory).

12. Claims 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins et al (US 2002/0188499).

As per claim 64, Jenkins does not explicitly teach the indication being a potential order by a potential customer Official notice is taken that both the concept and advantage of a "request for quote" (RFQ) or potential order is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to include RFQs in an ordering processing system for the purpose of gaining a potential order that may realize into an actual order.

As per claim 65, Jenkins teaches the determined cost associated with the center further includes at least one cost attributable to fulfilling the order (paragraph 49: evaluate the relative cost associated with each course of action (where the action means to "adjust the supply chain")) and one or more costs that reflect expected changes in customer goodwill that result from filling the order using that center. Official

notice is taken that it is known that there is a cost associated with goodwill that factors into a company's cost structure, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include a goodwill cost component for the purpose of determining an overall cost.

13. Claims 7-15, 62, 73-80 and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greamo et al (US 2002/0095307) in view of Weber et al (US 2002/0156663) in further view of Jenkins et al (US 2002/0188499).

As per claim 7, Greamo discloses the claimed invention, but does not explicitly teach predicting demand at a future time for one or more items at different locations. Jenkins teaches that it is known to predict demand at a future time for one or more items at different locations (paragraph 10), predict time of day and day of week, and wherein the future costs and the fulfillment plan are based in part on the predicted demand at the future time so as to balance the workload at each center (paragraph 9). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the order and inventory fulfillment of Jenkins for the purpose of minimizing costs and maximizing customer satisfaction.

As per claim 8, Greamo does not explicitly teach performing a planning activity to determine optimal loads of work and optimal inventories. Jenkins teaches that it is known to perform planning activities to determine optimal loads of work and optimal inventories of items for each center at future times and determine workload based in

part on optimal loads of work and any inventory shortages based upon the optimal inventories determined (paragraph 7). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the work and optimal inventory system of Jenkins for the purpose of minimizing costs and maximizing customer satisfaction.

As per claim 9, Greamo does not explicitly teach overload status. Jenkins teaches that it is known to determine overload status for a center based upon shipping an order (paragraph 329 and 330) and determining the difference between actual and expected requests that were allocated to that center for a specified time period (paragraph 57). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the overload status feature of Jenkins for the purpose of making the system more user friendly by alerting the user to fault conditions.

As per claim 10, Greamo does not explicitly teach determining inventory balance. Jenkins teaches that it is known to determine shortage of inventory between actual and expected inventory at a current time at the center (paragraph 9). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the inventory fulfillment system of Jenkins for the purpose of meeting customer demands and minimizing costs.

As per claim 11, Greamo does not explicitly teach inventory replenishment cost. Jenkins teaches that it is known to determine if the fulfillment plan requires shipping of an item that will exhaust inventory and require a cost to replenish prior to the scheduled replenishment (paragraph 9 and 10). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the replenishment cost feature of Jenkins for the purpose of determining a more accurate cost.

As per claim 12, Greamo does not explicitly teach preferred shipping instructions. Jenkins teaches that it is known to have customer preferred ordering/shipping instructions and any fulfillment plan would contain this information (paragraph 8: shipping and receiving capacity and customer delivery windows are all simultaneously considered). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the preferred shipping system of Jenkins for the purpose of optimizing shipping.

As per claim 13, Greamo does not explicitly teach processing lanes. Jenkins teaches that it is known to indicate a processing lane to be used at the centers and determine if shipping those items via those lanes will result in an overload of work at the processing lanes (paragraph 329). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo

with the processing lane feature of Jenkins for the purpose of optimizing the order fulfillment process.

As per claim 14, Greamo does not explicitly teach an indicated method for acquiring product. Jenkins teaches that it is known to indicate a manner for a center to acquire some of the order items and selecting the fulfillment plan is based upon cost and/or delays associated with the indicated acquiring method (paragraph 346-347). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the method of acquiring product feature of Jenkins for the purpose of allowing for adaptability with customer preferences.

As per claim 15, Greamo does not explicitly teach multiple shipping centers. Jenkins teaches that it is known to ship from multiple centers (paragraph 290) and the fulfillment cost includes this expense (paragraph 16). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the multiple shipping centers of Jenkins for the purpose of optimizing distribution channels.

As per claim 62, Greamo teaches determining multiple distinct fulfillment plans for supplying the items ("more than one option", Figure 2a), indicated one of multiple distribution centers (claim 2: checking availability of item, considering inventory and distribution needed); Jenkins teaches means for associating future costs with the

fulfillment plan, the projected future cost based upon correcting one or more conditions that result from using the plan (production module (400)) and; means for selecting a plan to be used for fulfilling the order based at least in part on the projected future costs for the selected fulfillment plan (paragraph 16).

As per claim 73, Greamo teaches receiving an order indicating one or more items (220); and in response to the received order determining deviations during a prior time period between items predicted to be ordered during that time period and items actually ordered during that time (The external system 10 modifies the planned orders as necessary, then releases them as actual production orders or vendor orders. The user can then import those actual orders to fulfillment system 100 as scheduled receipts, to be used as replenishments by the planning component 210 and scheduling component 220); for each fulfillment plan assigning a cost of using the plan that is based on direct costs associated with the plan ((240) select lowest cost option); adjusting the assigned costs of using at least some of the multiple fulfillment plans based on if the plans will assist in correcting determined deviations for future orders ((260):modify supply chain and (250): offer alternate, both options would involve correcting deviations in cost with present and subsequent orders); and selecting one of the plans to be used for fulfilling the order based at least in part on the cost assigned to the one selected plan ((240) select lowest cost option). Greamo does not explicitly teach predictions of future orders. Jenkins teaches that it is known to generate predictions of future orders for indicated items (paragraph 29: demand that was forecast), the predicted future orders for current use in planning for later fulfilling of actual future orders (paragraph 10: providing visibility

including: procurement plans); Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the future order feature of Jenkins for the purpose of more efficiently managing the order fulfillment process.

As per claim 74, Greamo does not explicitly teach period predictions of future orders. Jenkins teaches that it is known to generate predictions of the future orders is performed periodically (paragraph 29: planning component and planning period). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the future order feature of Jenkins for the purpose of more efficiently managing the order fulfillment process.

As per claim 75, Greamo does not explicitly teach future orders in response to condition changes. Jenkins teaches that it is known that the predictions of future orders is in response to changes in current conditions (paragraph 27: changes in supply chain data with respect to paragraph 29: planning component). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the future order feature of Jenkins for the purpose of more efficiently managing the order fulfillment process.

As per claims 76, Greamo does not explicitly teach the indication being a potential order by a potential customer Official notice is taken that both the concept and

advantage of a "request for quote" (RFQ) or potential order is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to include RFQs in an ordering processing system for the purpose of gaining a potential order that may realize into an actual order.

As per claim 77, Greamo does not explicitly teach some of the orders adjust assigned costs of using some of the plans based on whether the use of the plan will change customer goodwill. Official notice is taken that it is known that there is a cost associated with goodwill that factors into a company's cost structure, therefore it would be obvious to one of ordinary skill in the art at the time of the invention to include a goodwill cost component for the purpose of determining an overall cost.

As per claim 78, Greamo does not explicitly teach deviations in work. Jenkins teaches that it is known that deviations cause an imbalance between actual amount and desired amount of work at a center (paragraph 7), and wherein the adjusting assigned costs are based on costs of correcting the imbalance of the amount of work at one or more of the centers (production module (400)). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the work level feature of Jenkins for the purpose of more efficiently managing labor resources.

As per claim 79, Greamo does not explicitly teach deviations in inventory. Jenkins teaches that it is known that deviations cause an imbalance between the actual and desired amount of inventory at one or more centers (paragraph 7), and wherein the

adjusting of the costs is based on costs of correcting the imbalance of the amount of inventory at one or more center (paragraph 22, 24 and 25). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the inventory feature of Jenkins for the purpose of more efficiently managing inventory.

As per claim 80, Greamo does not explicitly teach an indication for fulfillment option. Jenkins teaches that it is known that each order provides an indication of the fulfillment option selected to be used for fulfilling the order (paragraph 5: the business then must select a least-cost strategy to satisfy the order). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the fulfillment feature of Jenkins for the purpose of more efficiently managing the product fulfillment process.

As per claim 95, Greamo does not explicitly teach cost disparity between levels. Jenkins teaches that it is known that the associated costs of use for each represented plan includes at least one cost that reflects disparity between an actual level of work and a desired level of work at one or more centers indicated for the fulfillment plan (Jenkins teaches that it is known to perform planning activities to determine optimal loads of work and optimal inventories of items for each center at future times and determine workload based in part on optimal loads of work and any inventory shortages based upon the optimal inventories determined (paragraph 7).) Jenkins is an analogous

art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the cost feature of Jenkins for the purpose of more efficiently managing costs.

14. Claims 86, 89-90 and 92-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greamo et al (US 2002/0095307) in view of Jenkins et al (US 2002/01888499).

As per claim 86, Greamo does not explicitly teach the impact of future costs. Jenkins teaches that it is known that the predicted impact that using some of the options will have on future costs of filling future orders is determined based on costs of correcting deviations between an actual and desired amount of work at one or more centers (production module (400)). Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the impact feature of Jenkins for the purpose of more efficiently managing costs.

As per claim 89, Greamo teaches determining whether an inventory shortage would result, this being based on projections of future orders to be filled by the distribution center (paragraph 41).

As per claim 90, Greamo does not explicitly teach inventory shortage. Jenkins teaches that it is known to determine whether an inventory shortage would result, this being based in part on optimal levels of inventory that are determined for the default

distribution center. (Jenkins teaches that it is known to perform planning activities to determine optimal loads of work and optimal inventories of items for each center at future times and determine workload based in part on optimal loads of work and any inventory shortages based upon the optimal inventories determined (paragraph 7).) Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the inventory feature of Jenkins for the purpose of more efficiently managing inventory.

As per claim 92, Greamo teaches determining whether a work overload would result being based in part on projections of future orders to be filled by the default center (paragraph 41, with respect to "supply chain" considerations).

As per claim 93, Greamo does not explicitly teach a work overload. Jenkins teaches that it is known to determine whether a work overload would result being based in part on optimal levels of work that are determined for the default center (Jenkins teaches that it is known to perform planning activities to determine optimal loads of work and optimal inventories of items for each center at future times and determine workload based in part on optimal loads of work and any inventory shortages based upon the optimal inventories determined (paragraph 7).) Jenkins is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the work overload feature of Jenkins for the purpose of more efficiently managing the work level.

15. Claims 23, 34, 55, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins et al (US 2002/0188499) in view Weber et al (US 2002/0156663) in further view of Greamo et al (US 2002/0095307).

As per claim 23, Jenkins teaches that it is known to have threshold values (paragraph 241: user can set values in the database. This is equivalent to a threshold value as it performs an identical function in substantially the same manner with substantially the same results.). Jenkins does not explicitly teach bulk ordering. Greamo teaches that it is known to have bulk ordering. (paragraph 74: "The customer may not want one item holding up the entire order (e.g. if customer orders a group of items, depending on which ones are available, they may take delivery on some of them even if the entire order isn't available). Thus, the user of commit system 100 should need to have visibility of this bottleneck."). Greamo is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Jenkins with the bulk ordering feature of Greamo to provide a means for utilizing economies of scale while ordering.

As per claim 34, Jenkins does not explicitly teach a method of acquiring items. Greamo teaches that a method is known of acquiring the items in the fulfillment options. (paragraph 10: "immediately allocating appropriate resources as needed to fulfill an order" and paragraph 11: "utilizes capable-to-deliver capabilities to ensure physical transportation is available within the lead-time prior to making a customer commitment." Whereby the resource required to fulfill an order and transportation would be equivalent

means to a method of acquiring as it performs an identical function in substantially the same manner with substantially the same results.) Greamo is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Jenkins with the procurement feature of Greamo to provide a more user-friendly system.

As per claim 55, Jenkins does not explicitly teach an optimization of modeled future costs for multiple orders over time. Greamo teaches that it is known to model future costs are performed for multiple orders over a period of time so that an optimal manner of fulfilling the orders over the period of time can be achieved based upon fulfillment plans that are dynamically determined at the time the order is received (paragraph 49). Greamo is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Jenkins with the cost optimization feature of Greamo to provide a more cost effective system.

As per claim 67, Jenkins does not explicitly teach indicating the fulfillment option. Greamo teaches that it is known to provide an indication of the selected fulfillment option (select lowest cost option (240)). Greamo is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Jenkins with the indication feature of Greamo to provide a more user-friendly system.

16. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins et al (US 2002/0188499) in view of Weber et al (US 20020156663) in further view of Dunston et al (US 2002/0082954).

As per claim 45, Jenkins does not explicitly teach overall cost. Dunston teaches that it is known to determine an overall cost of a fulfillment option which includes the costs of use and costs for one or more of the centers that reflect a willingness for the center to fill the order (paragraph 16). Dunston is an analogous art as it also teaches a distribution system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Jenkins with the cost feature of Dunston for the purpose of more efficiently managing costs.

17. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins in view of Greamo et al (US 2002/0095307).

As per claim 60, Jenkins does not explicitly teach the determiner component. Greamo teaches that it is known the option determiner component, future cost determiner component, and the selection component are executing in the memory of the computing device (paragraph 32, memory in the commit server). Greamo is an analogous art as it also teaches order fulfillment methods. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Jenkins with the determiner feature of Greamo to provide a more cost effective system.

18. Claim 99 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greamo et al (US 2002/0095307) in view of Weber et al (US 2002/0156663), in further view of Dunston et al (US 2002/0082954).

As per claim 99, Greamo does not explicitly teach data structures in arrays. Dunston teaches that it is known that the data structure is stored as a multi-dimensional array comprising a dimension representing distribution centers and at least one of a dimension representing manners of transporting the order, a dimension representing manners of acquiring items of the order, and a dimension representing manners of processing at least some items of the order at a distribution center (See Figure 1). Dunston is an analogous art as it also teaches a distribution system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Greamo with the data storage feature of Dunston for the purpose of more efficiently managing the order fulfillment process.

19. Claims 70 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunston et al (US 2002/0082954) in view of Greamo et al (US 2002/0095307).

As per claim 70, Dunston does not explicitly teach manner of shipping. Greamo teaches that it is known that the fulfillment plan indicates a manner of shipping items of the order to a recipient from at least one center (claim 2). Greamo is an analogous art as it also teaches a distribution system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Dunston with the shipping method feature of Greamo for the purpose of more efficiently and comprehensively managing the order fulfillment process.

As per claim 72, Dunston does not explicitly teach a specified factor. Greamo teaches that it is known that the plan is determined to optimize the specified factor based on the fulfillment plan minimizing costs attributable to its use that include at least direct costs associated with the order and an estimated future cost of fulfilling at least one future order based on effects of the use (select lowest cost option (240)). Greamo is an analogous art as it also teaches a distribution system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventory management system of Dunston with the specified factor feature of Greamo for the purpose of more efficiently managing the order fulfillment process.

20. Claims 88, 91 and 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greamo et al (US 2002/0095307).

As per claim 88, Greamo teaches receiving an indication of an order for one or more items (220); determining if filling the order at the default center would result in inventory shortage for one or more items (claim 2: step of checking the availability of said desired item by said desired time considers inventory); and when it is determined that filling the order would cause an inventory shortage, determining an alternate center for filling the order (offer alternate (250)). Greamo does not explicitly teach determining one of the centers that is associated with the indicated order as a default center from which to fill the order. Official notice is taken that the default center concept would be equivalent to the lowest cost option (240) as both would be the first selection for shipping an order. Therefore it would have been obvious to one of ordinary skill in the

art at the time of the invention to have a default center to provide the most cost-effective means of product transportation.

As per claim 91, Greamo teaches receiving an indication of an order (220), determining if filling the order at the default center would result in an overload of work at the default center (step of checking the availability of said desired item by said desired time considers inventory, production, manufacturing, distribution, and transportation resources), and when it is determined that the filling of the order at the default center would result in work overload, determining an alternate distribution center for the filling of the order (offer alternate (250)). Greamo does not explicitly teach determining a center that is associated with the order as a default center from which to fill the indicated order. Official notice is taken that the default center concept is equivalent to the lowest cost option (240) as both would be the first selection for shipping an order. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a default center to provide a means for the most cost-effective transportation.

As per claim 97, Greamo teaches each entry of data structure further comprises an indication of at least one associated cost of use that reflects at least one cost directly attributable to supplying items of the order (paragraph 32) and/or at least one associated cost of use that reflects at least some expected changes in customer goodwill. Official notice is taken that it is known that there is a cost associated with goodwill that factors into a company's cost structure, therefore it would have been

obvious to one of ordinary skill in the art at the time of the invention to include a goodwill cost component for the purpose of determining an overall cost.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following art also teaches about supply chain optimization: Yamamoto et al (US 5,854,746), Shekar et al (US 2003/0033180), Gleditsch et al (US 6,415,195), Yanagino et al (US 2002/0026347), Crampton et al (US 6,415,196), Horne (US 7,058,587), Singh et al (US 2002/0169657), "SAS/OR software" (7 pages) from www.archive.com, 1998; SAS OnlineDoc version 8, (29 pages), www.v8doc.sas.com, 1999; "Supply Chain Optimization: A methodology for strategic and tactical planning" by Cohen et al, SAS Institute white paper, January 1999; "Distributed supply chain simulation across enterprise coundaries" by Gan et al, Proceedings of the 2000 Winter Simulation Conference, 2000; "Technology for supporting supply" by Kumar, Communications of the ACM, June 2001; "How i2 integrates simulation in supply chain optimization" by Padmos et al, Proceedings of the 1999 Winter Simulation Conference, 1999; "Supply chain design and analysis models and methods" by Beamon, International Journal of Production Economics, 1998; "A Dynamic model for requirements planning with application to supply chain optimization" by Graves et al, Operations Research, May-June 1998; "Decision Making Through Operations Research", by Thierauf et al, John Wiley & Sons Publishing, 1975; "Simulation modeling and optimization using Promodel" by Heflin et al, Proceedings of the 1998 Winter

Simulation Conference, 1998; "Simulation Modeling and optimization using Promodel" by Benson, Proceedings of the 1997 Winter Simulation Conference, 1997; Promodel Resource Central, 2 pages from webarchive.com, 1998; "Combined Discrete-continuous simulation models in Promodel for Windows" by Klingener, Proceedings of the 1995 Winter Simulation Conference, 1995; "Using Simulation Optimization to find the best solution" by Akbay, IIE Solutions, May 1996; "Linear Programming applied to a production blending problem: a spreadsheet modeling approach" by Shammari et al, Production and inventory Management Journal, First Quarter 1997; "Introduction to ProcessModel and ProcessModel 9000" by Gladwin et al, Proceedings of the 1997 Winter Simulation Conference, 1997; "Using Simulation to Schedule Manufacturing Resources" by Czarnecki et al, Proceedings of the 1997 Winter Simulation Conference, 1997; "Cost Accounting" by Horngren et al, Prentice Hall Publishers, 2000; "Simulation Optimization Using Soft Computing" by Medaglia, Dissertation for Doctor of Philosophy at North Carolina State University, 2000; and "Decision support with web-enabled software" by Cohen et al, Interfaces, March-April 2001.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Krisciunas whose telephone number is 571-272-6931. The examiner can normally be reached on Monday through Friday, 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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